

JPhD 2017 Program

Tuesday 7th November 2017

09:00 – 09:15 Registration

09:15 – 09:30 Welcome

Nanobiomaterials

Chairmen: Andrea Bonaccini

09:30 – 09:45 1 **Nanoscale characterization coupled to multi-parametric modelling of High Five cells transient transfection**

Eduard Puente (UAB)

09:45 – 10:00 2 **Functionalized bacterial nanocellulose for epithelial regeneration**

Irene Antón (ICMAB)

10:00 – 10:15 3 **Evaluation of the nano-bio interactions between Au-NPs and Caenorhabditis elegans**

Zhongrui Luo (ICMAB)

10:15 – 10:30 4 **Quatsomes as novel nanomaterial-platform for cancer treatment**

Ariadna Boloix (ICMAB)

10:30 – 10:45 5 **Molecular dynamics simulations of a novel vesicular system for nanomedicine applications**

Silvia Illa (ICMAB)

10:45 – 11:00 6 **Electron Beam Lithography patterning for a cell Traction Force Microscope**

Maria Isabel Arjona (CNM)

11:00 – 12:00

Poster Session + Coffe Break

12:00 – 12:30

Invited talk “Horizon 2020: funding opportunities on nanotechnology research and innovation”

Dr. Alejandra Campos (Project advisor of Oficina de Projectes Internacionals OPI)

Synthesis & Characterization of advanced materials

Chairmen: Evangelia Dislaki

12:30 – 12:45 7 **Nanoscale characterization of electronic devices based on novel materials**

Anna Ruíz Flores (UAB)

12:45 – 13:00 8 **Color and performance tuning for thin film technologies: Photovoltaics à la carte**

Enrique Pascual (ICMAB)

13:00 – 13:15 9 **Photothermal activation of metal-organic frameworks**

Jordi Espín (ICN2)

13:15 – 13:30 10 **Gold nanoparticles arrays as tunable plasmonic crystals for SERS**

Cristiano Matricardi (ICMAB)

13:30 – 15:00	Lunch (not included)
15:00 – 15:30	Invited talk "The importance of Science Communication for researchers: The example of Nanodivulga UB" Dr. Jordi Díaz Marcos (responsible CCiTUB and coordinator Nanodivulga UB)

Theory & Simulation

	<i>Chairmen: Juan Antonio Seijas</i>
15:30 – 15:45 11	Dependance of the accumulatoin function on the regularization parameter in the MFP reconstruction technique Miguel Ángel Sánchez Martínez (ICN2)
15:45 – 16:00 12	Plasmonic response of a triangular array of nanogaps: high absorption and extended temporal response Ana Conde (UB IN2UB CNM)
16:00 – 16:15 13	Phase interplay in the Charge-Density-Wave state of single-layers NbSe₂ Ionel Bodgan Guster (ICN2)
16:15 – 16:30	Coffe Break
16:30 – 17:30	Roundtable "The future of a PhD" Aron Cummings (senior researcher), Xavier Vila (project manager at Uriach), Emigdio Chávez (postdoctoral researcher), Nadia Pons (business development officer ICN2)

Poster Session- 7th November

	Name	Title
1	Alba Mingorance	Stable Perovskite Solar Cells Employing Oxide Interlayers
2	Alejandro Borrás	Activation of microporous Co-CB MOF by supercritical CO₂
3	Alexander Stangl	Role of Oxygen exchange kinetics in the engineering of carrier concentration of YBa₂Cu₃O_{7-δ} films
4	Antonio Campos	State-of-the-art performing organic field-effect transistors based on a solution sheared sulfur-bridged annulene derivative in dry state and in aqueous media
5	Arianna Pesce	Developing of 3D printing of complex ceramic devices for energy application
6	Arsalan Akhtar	Ab initio study of oxygen vacancies in YSZ for gas sensor
7	Bhawna Nagar	Heavy Metals Detection using Screen printed Carbon electrodes
8	Christian Pinto	FinFET fabrication by the combination of electron beam lithography and directed self-assembly of block copolymers
9	Cristiane Kalinke	Electrodes based on biochar – Application in the determination of phenolic compounds
10	Cristina del Pozo	Characterization and added value to bio-oil derived from Sansa

11	Cristina Navarro	Magnetic properties of nanoporous Co-Pt micropatterns synthesized by micelle-assisted electrodeposition on photolithographed substrates
12	Deyaa Youssef	Bacterial cellulose/reduced graphene oxide nanocomposite; eco-friendly reduction affords flexible conductive films
13	Dioni Ortiz	Label-free impedimetric aptasensor for Codeine detection
14	Doga Bilican	Effects of Post- and In-situ Heat Treatments on Sputtered Copper-Aluminium-Nickel Shape Memory Alloys
15	Yajie Zhang	Multifunctional Platform of Nanocapsules as Drug Carrier for Angiogenic Therapies
16	Fangchang Tan	New carborane based dipyriddy linkers for coordination polymers/metal organic frameworks
17	Ferran Jovell	Effect of the intercalation of graphite in a metal/graphene contact
18	Franc Paré	Trends in sulfur containing species monitoring
19	Gisela Ruiz	Electrochemical lateral flow devices for the simplification of rapid immunomagnetic-assays
20	Guillermo Arregui	Anderson localization to mediate the optomechanical coupling at the nanoscale
21	Gustavo Gonçalves	In-plane thermal transport by 3ω-Völklein method
22	Jan Grzelak	Alumina tubes catalytic supports synthesized from bacterial cellulose templates
23	Jordi Rodríguez	Simple strategies for the functionalization of graphene nanocomposite electrodes with gold and silver nanoparticles
24	Jorge Cordero, David García, Nacho Gonzalez	Modelling of the current compliance effects in the I-V characteristics of memristors devices.

Wednesday 8th November 2017

Nanomaterials for Energy & Environment

09:00 – 09:15	14	<i>Chairmen: Rocío Rodríguez</i> Carbon/Sulfur Nanotubes Composites as Cathode Materials for High Performance Li-S Batteries Katarina Gavalierová (ICN2)
09:15 – 09:30	15	Thermoelectric properties of 2D materials and thermoelectric properties of Topological Insulators Aloïs Arrighi (ICN2)

Fabrication

09:30 – 09:45	16	<i>Chairmen: Olga Muntada</i> Guiding Pattern Options to Direct the Self-Assembly of Block Copolymers Steven Gottlieb (CNM)
09:45 – 10:00	17	Structure of C60/C60IPc systems on Au(111) at submolecular scale Roger Palacios (ICMAB)
10:00 – 10:20		Invited talk “The precarious life of the researcher” Mónica Alcalá Lorente (member of Assembla d’Investigadores Precàries UAB)
10:20 – 10:35	18	Multifunctional cellulose based photonic architectures Camilla Dore (ICMAB)
10:35 – 10:50	19	Plasma diagnostics within RF Plasmas used for the cleaning contaminated B4C -coated optics Harold Moreno (ALBA)
10:50 – 11:05	20	High performing OFETs fabricated by BAMS: response under mechanical stress Inés Temiño (ICMAB)
11:05 – 12:00		Poster Session + Coffe Break
12:00 – 12:30		Invited talk 'Insider views from outside the nanolaboratory' Roger Ponce (co-founder SCN2)

Devices

12:30 – 12:45	21	<i>Chairmen: Marc Vila</i> Spin relaxation anisotropy in graphene due to proximity effect. Antonio Benítez Moreno (ICN2)
12:45 – 13:00	22	Nanomechanical sensing based on 2D colloidal photonic crystals Fernando Escudero (IMB-CNM)
13:00 – 13:15	23	Optomagnonical interaction on microsphere resonators Martín Colombano Sosa (ICN2)

13:15 – 13:30 24	Electrical characterization of TiN/Ti/HfO₂/W resistive switching devices Samuel Poblador (IMB-CNM)
13:30 – 15:00	Lunch (not included)

Materials

	<i>Chairmen: Laia Soler</i>
15:00 – 15:15 25	Physical Properties of Nanostructured, Liquid Assisted Grown, Epitaxial YBa₂Cu₃O_{7-x} Superconducting Films Juri Banchewski (ICMAB)
15:15 – 15:30 26	Flexoelectricity in Bones Fabian Vasquez (ICN2)
15:30 – 15:45 27	Understanding ferroelectricity in epsilon-Fe₂O₃ films Zheng Ma (ICMAB)
15:45 – 16:00 28	Initial stages of transition metal oxides growth on Ru(0001) Ania Mandziak (ALBA)
16:00 – 16:15 29	Three-Dimensional Photonic Crystals Self-Assembled from Polyhedral Metal-Organic Framework Particles Civan Avci (ICN2)
16:15 – 16:30	Coffe Break
16:30	Science Speed Dating Award ceremony

Poster Session- 8th November

	Name	Title
25	Júlia Jareño	Growth of epitaxial YBa₂Cu₃O_{7-x} nanocomposite films by CSD-ultrafast Transient Liquid Assisted Growth
26	Laura Rodríguez	Synthesis of curcuminoid-MOFs using sustainable CO₂ methods. Comparison with solvothermal method
27	Mahdi Chaari	Fluorescent BODIPY-anionic boron cluster conjugates for cell tracking and neutron capture therapy.
28	Marc Calvo	Size-dependent thermal conductivity in Si nanowires
29	Marta Bonet	Graphene-based electrochemical biosensor for the determination of phenolic compounds
30	Mathieu Mirjolet	Growth and Characterization of Transparent Conducting SrVO₃ Thin Films
31	Mengdi Qian	Different Contributions in Electroresistance of BaTiO₃ Films
32	Michele Gastaldo	Engineering edge structure and electronic properties of graphene nanoislands
33	Miguel Zea	Miniaturized multi-sensing platform for pH and Dissolved Oxygen

		monitoring in Organ-on-a-chip systems.
34	Miguel Ángel Moreno	Caatechol-based bioinspired adhesives and coatings
35	Mijal Mass	Electrochemical characterization of SWCNTs based microelectrodes fabricated by inkjet-printing
36	Miquel Torras	Fast and simple microwave synthesis of functional multimaterial gold nanoparticles
37	Mónica Bernal	Structural and magnetic properties of Ni-doped Manganite thin films
38	Natalia Chamorro	Synthesis of ABO₃ perovskite type nanoparticles.
39	Pau Güell	Plasmonic metamaterials for opto-mechanical sensing
40	Pau Molet	Thin Film Germanium Photonic Architectures Exhibiting Enhanced Absorption from VIS to NIR Frequencies
41	Pengmei Yu	Atomic Layer deposition: Novel metal organic precursors and Conformal coatings on 3D nanostructures for energy applications
42	Pol Febrer, Elena Abellán, Aida Aranda	Cross correlation of resistive switching characteristics in memristors devices
43	Roberto Pol	Three-Dimensional Printing: Concept and Potential for Sensing Applications
44	Rocío Rodríguez	Thermal properties of novel graphene nanofluids ideal as coolants for computer cooling systems
45	Sergi Martin Rio	Measurement of Permalloy Thin Films' Magnetic Properties by Means of Ferromagnetic Resonance
46	Soledad Roig	Engineering bacterial cellulose during the biosynthesis
47	Veronica Sireus	Voltage-controlled magnetism in Fe₆₀Al₄₀ (at. %)/(100) PMN-PT multiferroic heterostructures
48	Víctor Fuentes	Epitaxial growth of Strontium Iridates
49	Vladimir Dikan	Investigation of properties of novel 2D-materials using high-throughput ab-initio calculations.